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Quality Engineering Test Report

SERIES: SD-150B 150W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY
SAMPLE: A. SD-150B-12 12V / 12.5A
B. SD-150B-24 24V / 6.3A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 19~36VDC O/P : FULL LOAD	B: 16.1~36VDC	P
2	LINE REGULATION	I/P : 19~36VDC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3%	A: -0%~+0% B: -0%~+0%	P
3	LOAD REGULATION	I/P : 24VDC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3%	A: -0.1%~+0.1% B: :-0.05%~+0.05%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 19~36VDC SPEC : A:±1% O/P : MIN. TO FULL LOAD B:±1%	A: -0.1%~+0.2% B: :-0.05%~+0.08%	P
5	RIPPLE&NOISE	I/P : 24VDC SPEC : A:120mVp-p O/P : FULL LOAD B:150mVp-p	A: 19mV B: :16mV	P
6	DC INPUT CURRENT	I/P : 24VDC SPEC : 8.5A O/P : FULL LOAD	B: :7.6A	P
7	MAX. INRUSH CURRENT	I/P : 24VDC SPEC : NONE O/P : FULL LOAD	B: :49.3A	P
8	O/P VOLTAGE ADJ. RANGE	I/P : 24VDC SPEC : A:11~16V O/P : MIN. LOAD B:23~30V	A: 9.71~16.61V B: 21.73~33.03V	P
9	SET UP TIME	I/P : 24VDC SPEC : 2S O/P : FULL LOAD	B: 1632mS	P
10	EFFICIENCY	I/P : 24VDC SPEC : A:75% O/P : FULL LOAD B:77%	A: 77.2% B: 81.4%	P
11	OVER LOAD PROTECTION	I/P : 24VDC SPEC : 105%~135% O/P : TESTING	A: 121% B: 120.8%	P
12	OVER VOLTAGE PROTECTION	I/P : 24VDC SPEC : A:16.8V~20V O/P : TESTING B:31.5V~37.5V	A: 17.78V B: 34.99V	P
13	INSULATION RESISTANCE	SPEC : I/P-O/P : 500VDC/100M Ohms MIN. I/P-FG : 500VDC/100M Ohms MIN. O/P-FG : 500VDC/100M Ohms MIN.	B: I/P-O/P : >100M Ohms I/P-FG : >100M Ohms O/P-FG : >100M Ohms	P
14	DIELECTRIC / WITHSTAND VOLTAGE	SPEC : I/P-O/P : 1500VAC/ 1 min (10mA CUT-OFF). I/P-FG : 1500VAC/ 1 min (10mA CUT-OFF) O/P-FG : 500VAC/ 1 min (10mA CUT-OFF)	B: I/P-O/P : <3.77mA I/P-FG : <4.72mA O/P-FG : <3.36mA	P
15	BURN-IN TEST	I/P : 24VDC O/P:FULL LOAD TA : 27.4°C BURN-IN DURATION : 4 hrs	B:NON BREAK	P
16	ENVIRONMENT TEST (SAMPLE A:)	1.LOW TEMPERATURE TEST I/P : 18.3 VDC O/P : FULL LOAD AMBIENT TEMPERATURE : -10°C	AFTER 2 hrs POWER ON OK	P
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P : 24.1VDC O/P : FULL LOAD AMBIENT TEMPERATURE : 27.4°C	AFTER 3 hrs NON BREAK	

NEXT

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>17</td><td>TEMPERATURE RISE TEST T rise OF PARTS</td><td>B: I/P : 24VDC AFTER 1 hr BURN-IN
O/P : FULL LOAD TA : 22.4°C
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td>Q1</td><td>MAIN TRANSISTOR</td><td>92.8°C</td><td>69.1°C</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER</td><td>76.1°C</td><td>52.4°C</td></tr>
<tr><td>D11</td><td>O/P DIODE</td><td>80.5°C</td><td>56.8°C</td></tr>
<tr><td>C33</td><td>O/P FILTER CAPACITOR</td><td>55°C</td><td>31.3°C</td></tr>
<tr><td>L1</td><td>O/P CHOCK</td><td>62.2°C</td><td>38.5°C</td></tr>
<tr><td>C5</td><td>I/P FILTER CAPACITOR</td><td>53.7°C</td><td>30°C</td></tr>
</table></td><td></td><td>P</td></tr>
<tr><td>18</td><td>LIFE CYCLE</td><td>B: SUPPOSE C33 IS THE MOST CRITICAL COMPONENT
I/P : 24VDC O/P : FULL LOAD Ta : 25 °C Tc33 : 56.3°C Life: 45941 hrs
I/P : 24VDC O/P : FULL LOAD Ta : 34 °C Tc33 : 66.7°C Life: 23291 hrs</td><td></td><td>P</td></tr>
<tr><td>19</td><td>CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)</td><td>B: FUSE : F 15AL/250V G UL
INPUT DIODE : 1N5401
LINE FILTER : LF TF-307-R1 EE-35
TRANSFOMER : MT TF-300-R1 ETD-34
POWER SWITCHER : C25P06Q TO-3P
OUTPUT DIODE : D9202 TO-3P
OUTPUT CAPACITOR : JAMICON 330uF/50V 105°C WG
INPUT CAPACITOR : N.C.C 330uF/100V KMF 105°C
P.C.B : SD-150-R1 FR-4 2 OZ DS</td><td></td><td></td></tr>
<tr><th>DATE</th><th>SAMPLE</th><th>TEST RESULT</th><th>TEST</th><th>APPROVAL</th></tr>
<tr><td>980506</td><td>SD-150B</td><td>PASS</td><td>H.C.LIOU</td><td>Max Lin</td></tr>
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